

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Atty. Docket: BRO2

In re Application of:	)	Conf. No.: 6559
Christoffer BRO	)	
	)	Art Unit:
	)	
Appln. No.: 10/536,495	)	Examiner:
	)	
Filed: November 25, 2003	)	Washington, D.C.
	)	
For:METABOLICALLY ENGINEERED	)	May 10, 2006
MICRO-ORGANISMS HAVING REDUCED	)	
PRODUCTION OF UNDESIRE...	)	

**INFORMATION DISCLOSURE STATEMENT [IDS]**

Honorable Commissioner for Patents  
U.S. Patent and Trademark Office  
Randolph Building, Mail Stop Amendments  
401 Dulany Street  
Alexandria, VA 22314

Sir:

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

[X] 1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed:

[ ] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

[X] B. before the mailing date of a first office action on the merits or before the mailing of a first Office action after the filing of a Request for Continued Examination under 37 CFR §1.114; or

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicant has made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below):

☐ i. Counsel certifies that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this IDS.

☐ ii. Credit Card Payment Form, PTO-2038, is attached authorizing payment of the fee set forth in 37 CFR §1.17(p), presently believed to be \$180. If the enclosed payment is incorrect, please charge any additional fees or credit any overpayment to Deposit Account No. 02-4035 of the undersigned.

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant states as follows under 37 CFR §1.97(e) for consideration of this IDS, that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR \$1.56(c) more than three months prior to the filing of this IDS.

Credit Card Payment Form, PTO-2038, is attached authorizing payment of the fee set forth in 37 CFR \$1.17(p), presently believed to be \$180. If the enclosed payment is incorrect, please charge any additional fees or credit any overpayment to Deposit Account No. 02-4035 of the undersigned.

☒ 2. In accordance with 37 CFR \$1.98, this IDS includes a list (e.g., form BN/SB/08A/B) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. Other than U.S. patent(s) and/or published U.S. application(s), which 37 CFR \$1.98(a)(2)(ii) does not require to be filed unless specifically required by the Office, a copy of each document listed is attached, except as explained below:

☐ A. Document(s) \_\_\_\_\_ is/are deemed substantially cumulative to document(s) \_\_\_\_\_, and, in accordance with 37 CFR \$1.98(c), a copy of each of the former document(s) is not enclosed.

☒ B. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon under 35 U.S.C. 120: WO 2004/048559 A1

*(insert serial numbers and filing dates of prior applications)*

Applicant identifies these documents by attaching hereto copies of the forms PTO-892, PTO-1449, PTO/SB/08a and/or PTO/SB/08b (or their BN form equivalents) from the files of the prior application(s) or a fresh BN/SB/08A and/or BN/SB/08B listing these documents, and request that they be considered and made of record in accordance with 37 CFR \$1.98(d). Per 37 CFR

§1.98(d), copies of these documents need not be filed in this application.

☐ 3. Document(s) \_\_\_\_\_ is/are not in the English language. In accordance with 37 CFR §1.98(a)(3), Applicant states:

- ☐ An English translation of each document \_\_\_\_\_ (or of the pertinent portions thereof), or a copy of an English-language abstract (or claim) is enclosed.
- ☐ For documents \_\_\_\_\_, a corresponding English-language patent or published application is included on the accompanying Form BN/SB/08A, with a line drawn in the margin connecting the non-English-language document with its corresponding English-language document.
- ☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ is found in the attached \_\_\_\_\_ search report (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).
- ☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ is set forth as follows:
- ☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ can be found on page(s) \_\_\_\_\_ of the specification.
- ☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ can be found on the attached sheet.

☒ 4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

☐ 5. Other information being provided for the examiner's consideration follows:

6. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

Respectfully submitted,

BROWDY AND NEIMARK  
Attorneys for Applicant(s)

By:



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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 1

of

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**Complete if Known**

Application Number	10/536,495
Filing Date	November 25, 2003
First Named Inventor	Christoffer BRO
Group Art Unit	
Examiner Name	
Attorney Docket Number	BRO2

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US-			
		US-			
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	AA	EP 0 733 712 B1	12-12-2001	Kojima et al.		
	AB	WO 99/46363	9-16-1999	Aristidou et al.		

Examiner  
SignatureDate  
Considered

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2

of

**Complete if Known**

Application Number	10/536,495
Filing Date	November 25, 2003
First Named Inventor	Christoffer BRO
Group Art Unit	
Examiner Name	
Attorney Docket Number	BRO2

**NON PATENT LITERATURE DOCUMENTS / OTHER INFORMATION**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	AC	A. IDDAR et al; Expression, Purification, and Characterization of Recombinant Nonphosphorylating NADP-Dependent Glyceraldehyde-3-Phosphate Dehydrogenase from Clostridium Acetobutylicum; Protein Expression and Purification 25 (2002) 519-526, XP-002273747, Morocco	
	AD	M. BIANCHI et al; Efficient Homolactic Fermentation by Kluyveromyces Lactis Strains Defective in Pyruvate Utilization and Transformed with the Heterologous LDH Gene; Applied and Environmental Microbiology, Vol. 67, No. 12, December 2001, p.5621-5625, XP-002236027, Italy	
	AE	J. NIELSEN et al; Metabolic Engineering; Appl Microbiol Biotechnol (2001) 55:263-283, XP-002236027, Denmark	
	AF	S. MICHNICK et al; Modulation of Glycerol and Ethanol Yields During Alcoholic Fermentation in Saccharomyces Cerevisiae Strains Overexpressed or Disrupted for GPD1 Encoding Glycerol 3-Phosphate Dehydrogenase; Yeast, Vol. 13:783-793 (1997), XP008015354, France	
	AG	H. VALADI et al; Improved Ethanol Production by Glycerol-3-Phosphate Dehydrogenase Mutants of Saccharomyces Cerevisiae; Appl Microbiol Biotechnol (1998) 50:434-439; XP-002236029, Sweden	
	AH	T. NISSEN et al; Optimization of Ethanol Production in Saccharomyces Cerevisiae by Metabolic Engineering of the Ammonium Assimilation; Metabolic Engineering 2, 69-77 (2000), XP-002236030, Denmark	
	AI	R. VERHO et al; Identification of the First Fungal NADP-GAPDH from Kluyveromyces Lactis; Biochemistry 2002, 41, 13833-13838; Finland	
	AJ	C. VERDUYN et al; Physiology of Saccharomyces Cerevisiae in Anaerobic Glucose-Limited Chemostat Cultures; Journal of General Microbiology (1990), 136, 395-403; The Netherlands	
	AK	J. VAN DIJKEN et al; Redox Balances in the Metabolism of Sugars by Yeasts; (NAD(H); NADP(H); Glucose Metabolism; Xylose Fermentation; Ethanol; Crabtree Effect; Custers Effect); FEMS Microbiology Reviews 32 (1986) 199-224; The Netherlands	
	AL	D. PORRO et al; Replacement of a Metabolic Pathway for Large-Scale Production of Lactic Acid from Engineered Yeasts; Applied and Environmental Microbiology, Sept. 1999, Vol. 65, No. 9, p. 4211-4215, Italy	
	AM	T. NISSEN et al; Anaerobic and Aerobic Batch Cultivations of Saccharomyces Cerevisiae Mutants Impaired in Glycerol Synthesis; Yeast 2000; 16; 463-474; Denmark	
	AN	F. Valverde et al; Engineering a Central Metabolic Pathway: Glycolysis with no Net Phosphorylation in an Escherichia Coli Gap Mutant Complemented with a Plant GapN Gene; FEBS Letter 449 (1999) 153-158, Spain	

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SignatureDate  
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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of

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Application Number

**10/536,495**

Filing Date

November 25, 2003

**First Named Inventor**

**Christoffer BRO**

### Group Art Unit

Examiner Name

Attorney Docket Number

BRO2

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Examiner  
Signature

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